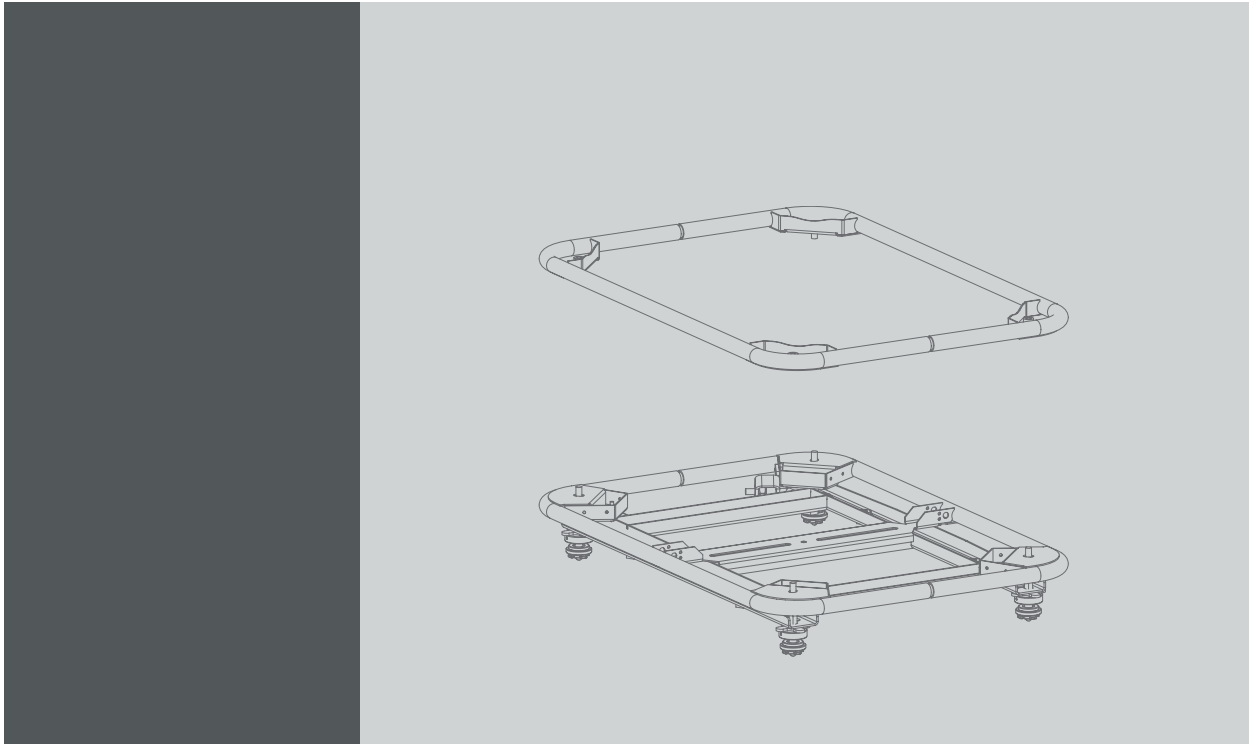


# Top & Bottom Carry Handle



## Installation manual For HDX series

R9864060  
R9864070  
R9864080

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# 1. INTRODUCTION

## **Purpose of the Top & Bottom Carry Handles**

The Top & Bottom Carry Handles are exclusively designed for the Barco HDX series and can thus not be used on any other equipment.

## **About this manual**

This manual is applicable for the following kits:

- Top Carry Handle
- Bottom Carry Handle
- Touring kit

Depending on which procedure you want to perform, a Top Carry Handle and/or Bottom Carry Handle is needed.

## **Overview**

- Top Carry Handle
- Bottom Carry Handle
- Touring kit

## 1.1 Top Carry Handle

### Order info & content of the kit

When ordering the Top Carry Handle for HDX series, refer to article number R9864060.

The table below gives an overview of the content of the kit.

| Article number | Description              | Quantity | Image     |
|----------------|--------------------------|----------|-----------|
| R5905106       | This installation manual | 1        |           |
| R870055        | Frame                    | 1        | image 1-1 |
| A566050        | Screw (M10x16)           | 4        | image 1-2 |
| B3624221       | Washer                   | 4        | image 1-3 |



Image 1-1



Image 1-2



Image 1-3



## 1.2 Bottom Carry Handle

### Order info & content of the kit

When ordering the Bottom Carry Handle for HDX series, refer to article number R9864070.

The table below gives an overview of the content of the kit.

| Article number | Description              | Quantity | Image     |
|----------------|--------------------------|----------|-----------|
| R5905106       | This installation manual | 1        |           |
| R870929        | Frame                    | 1        | image 1-4 |
| R856608        | Stacking point           | 4        | image 1-5 |
| A576097        | Screw (M10x40)           | 4        | image 1-6 |
| R870953        | Clamp                    | 4        | image 1-7 |
| B3612131       | Safety cable             | 2        | image 1-8 |
| B362090        | Snap hook                | 2        | image 1-9 |



Image 1-4

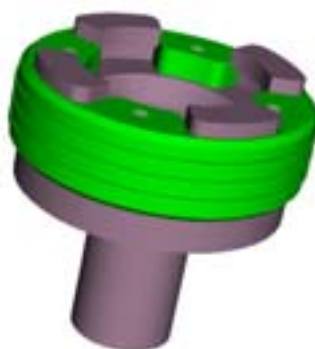


Image 1-5



Image 1-6



Image 1-7



Image 1-8



Image 1-9

## 1.3 Touring kit

---

### Order info & content of the kit

When ordering the Touring kit for HDX series, refer to article number R9864080.

The table below gives an overview of the content of the kit.

| Article number | Description  | Quantity |
|----------------|--|----------|
| R5905106       | This installation manual                                 | 1        |
| R9864060       | Top Carry Handle (See "Top Carry Handle", page 4 )       | 1        |
| R9864070       | Bottom Carry Handle (See "Bottom Carry Handle", page 5 ) | 1        |

## 2. INSTALLATION PROCEDURES

### Overview

- Installing the Bottom Carry Handle
- Removing the Bottom Carry Handle
- Installing the Top Carry Handle
- Removing the Top Carry Handle
- Allowed projector positions
- Stacking projectors
- Suspending the projector from a truss
- Skewing the projector
- Inclining and/or rotating the projector
- Aligning stacked projectors
- Dimensions

## 2.1 Installing the Bottom Carry Handle

### Necessary tools

17 mm open-end wrench

### How to install the Bottom Carry Handle?

1. Turn the projector upside down and remove the 4 feet (reference 1, image 2-1) by turning them anticlockwise.

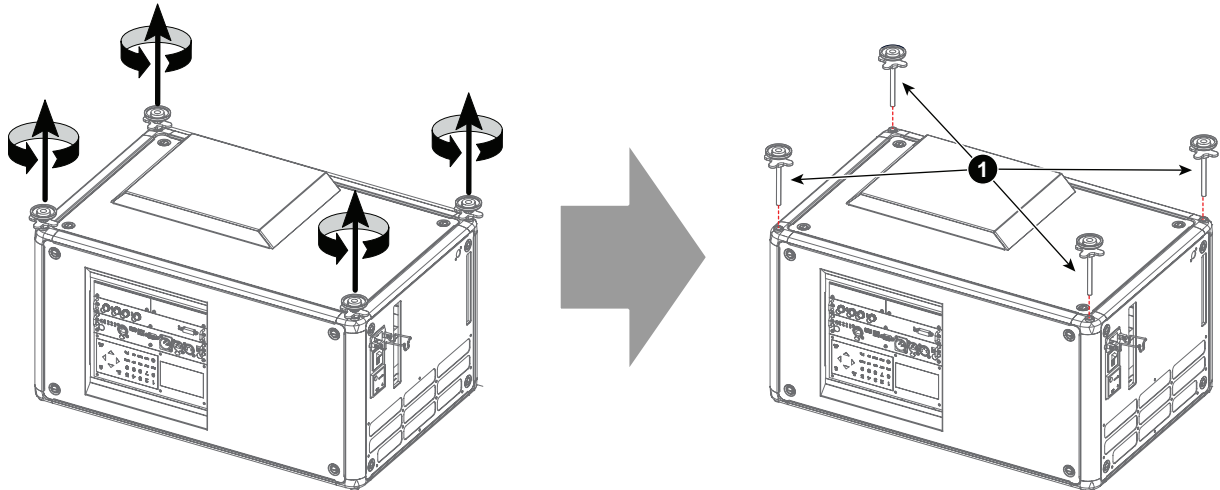


Image 2-1

2. Turn out the stacking points of the carry handle (reference 2, image 2-2) a few turns in order to create some space to be able to install the mounting bolts.
3. Position the Bottom Carry Handle on the projector so that the fixation holes (reference 3, image 2-2) match the holes in the projector (reference 4, image 2-2).

**Tip:** Make sure the adjustment knob (reference 5, image 2-2) is positioned on the back of the projector.

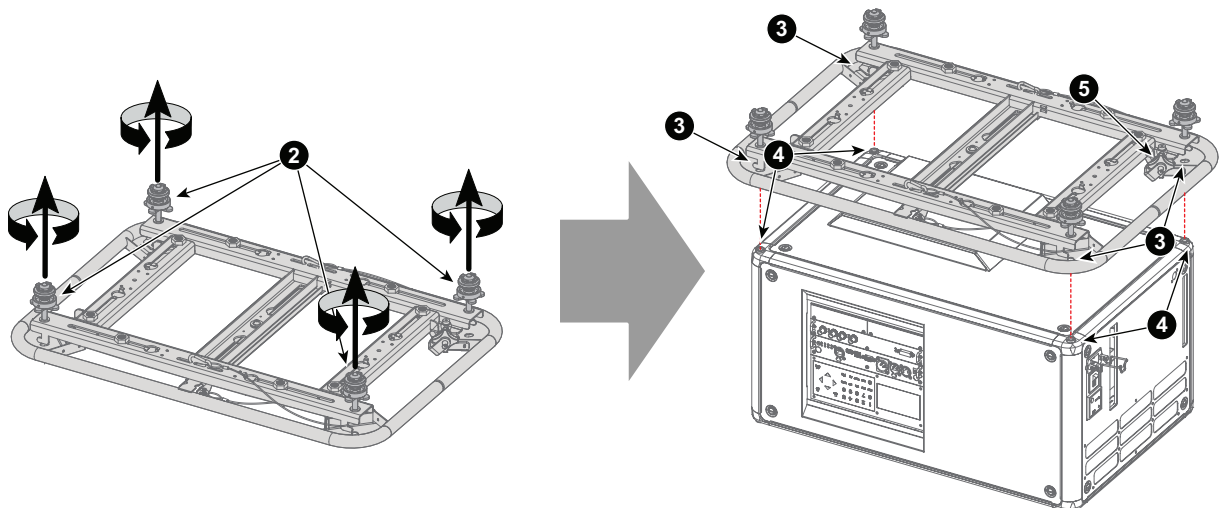


Image 2-2

4. Secure the Bottom Carry Handle by installing the 4 bolts (reference 6, image 2-3) and tighten the bolts.

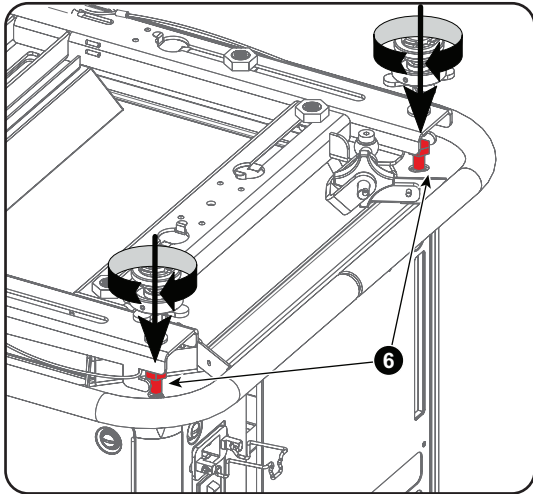


Image 2-3

5. Bring the stacking points back to their original position by turning them clockwise.

## 2.2 Removing the Bottom Carry Handle

---

### How to remove the Bottom Carry Handle?

1. Remove the 4 bolts (reference 6, image 2-4).

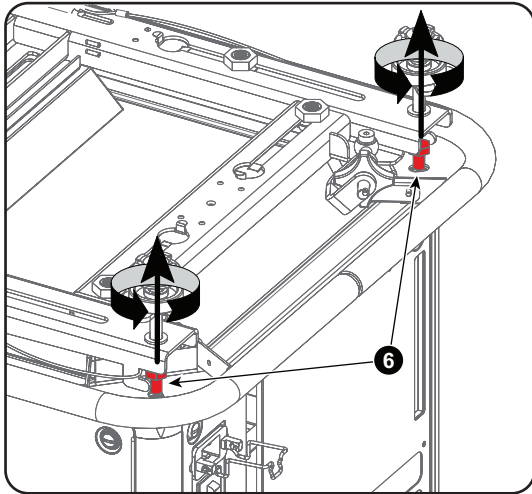


Image 2-4

2. Remove the Bottom Carry Handle from the projector (image 2-5).

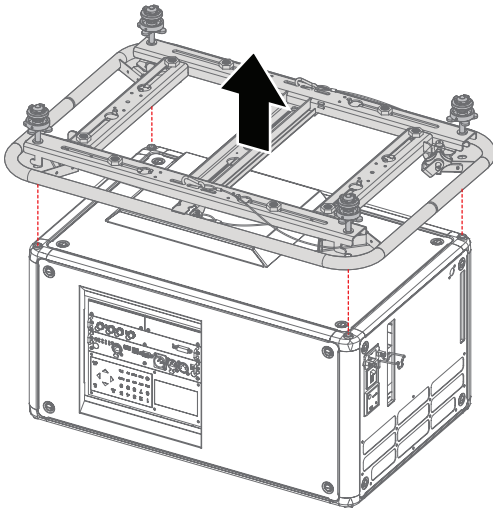


Image 2-5

3. Install the 4 feet by turning them clockwise (image 2-6).

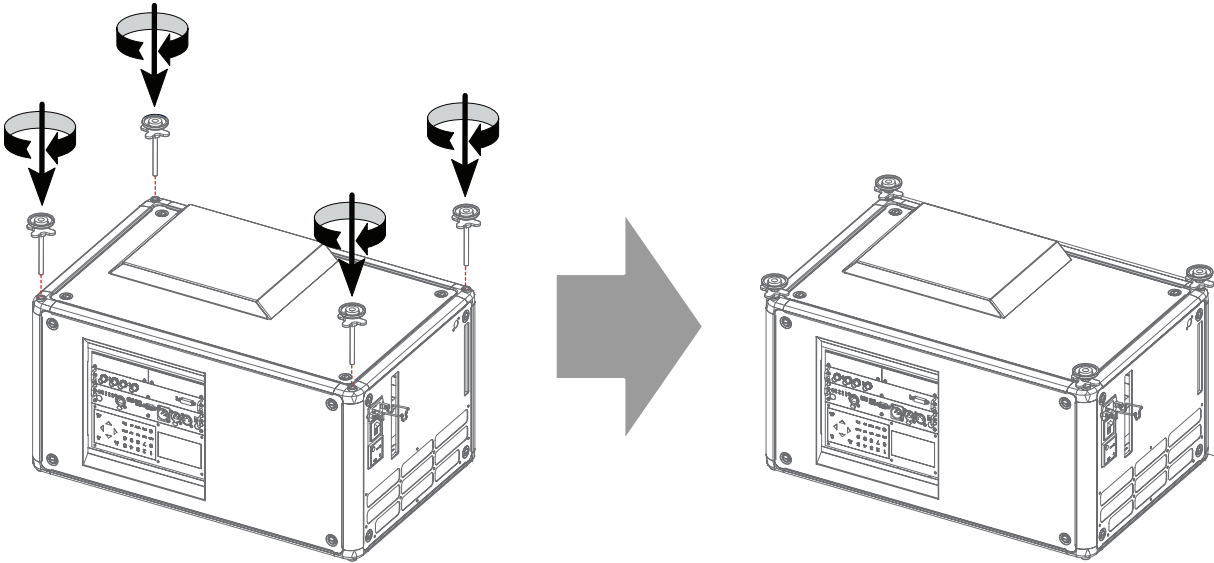


Image 2-6

## 2.3 Installing the Top Carry Handle

### Necessary tools

8 mm Allen wrench

### How to install the Top Carry Handle?

1. Position the Top Carry Handle on top of the projector so that the fixation holes match the holes in the projector.
2. Turn in the 4 bolts (reference 1, image 2-7). Insert a washer between the bolt and the carry handle.

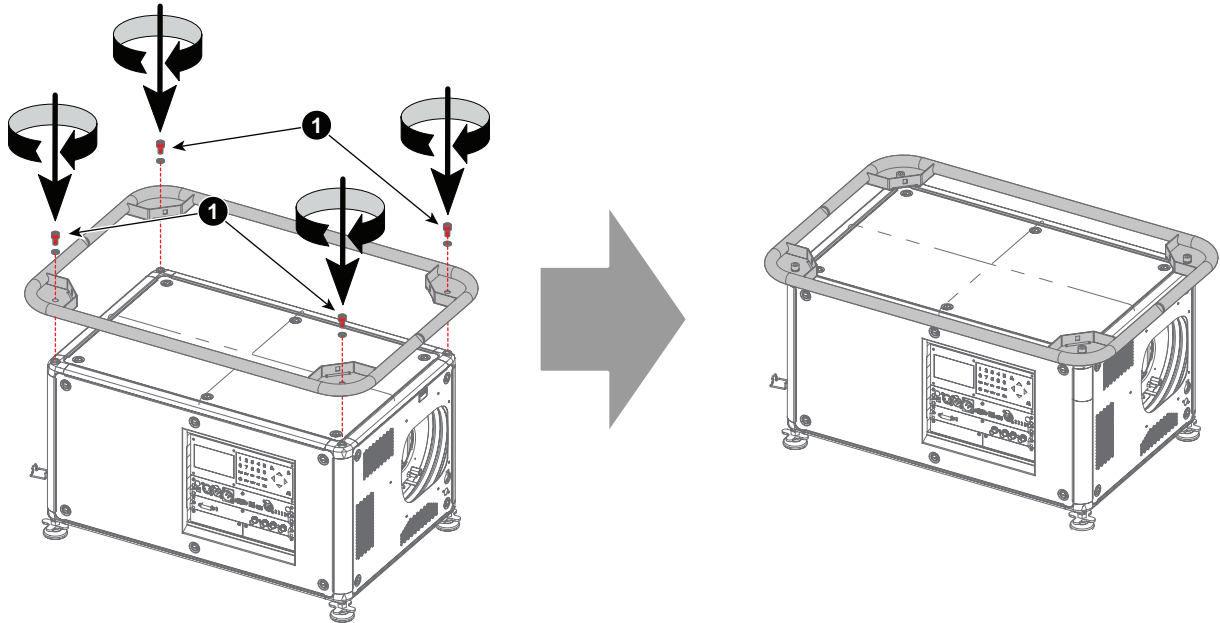


Image 2-7



## 2.4 Removing the Top Carry Handle

### Necessary tools

8 mm Allen wrench

### How to remove the Top Carry Handle?

1. Turn out the 4 bolts (reference 1, image 2-8) and remove the 4 washers.

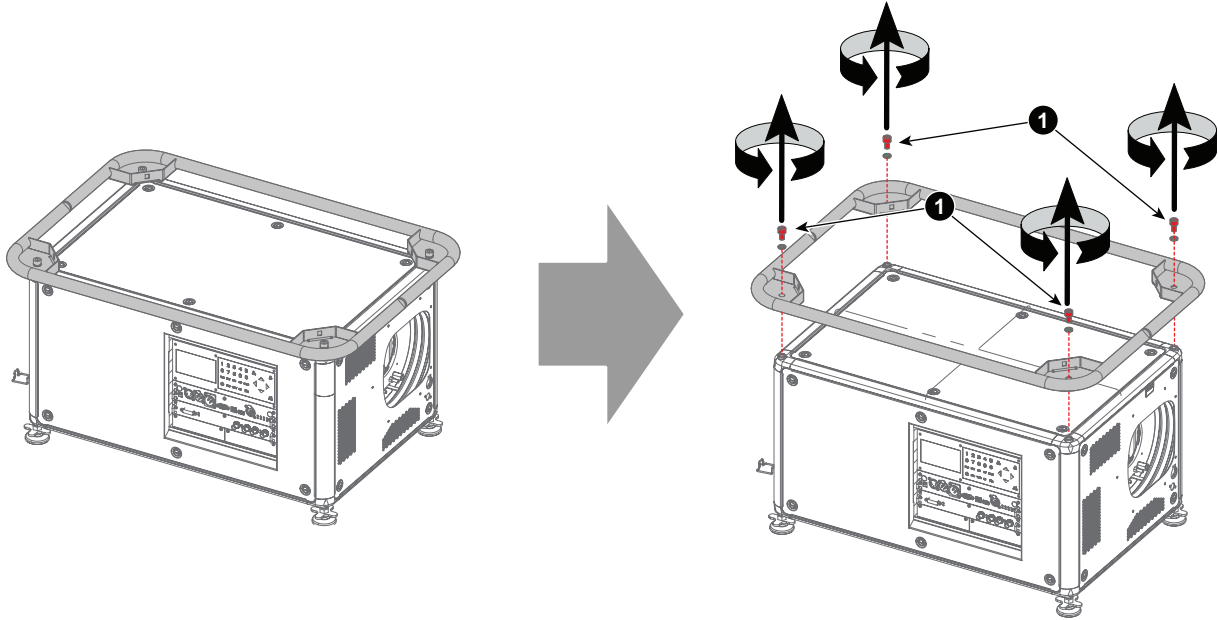


Image 2-8

2. Remove the Top Carry Handle from the projector.

## 2.5 Allowed projector positions



**CAUTION:** Using the projector in a disallowed position can cause premature lamp failure.

### Which projector positions are allowed?

With both the Top Carry Handle and Bottom Carry Handle installed, the projector can be placed in several positions. However, not all positions are allowed. The illustration below gives an overview (image 2-9).

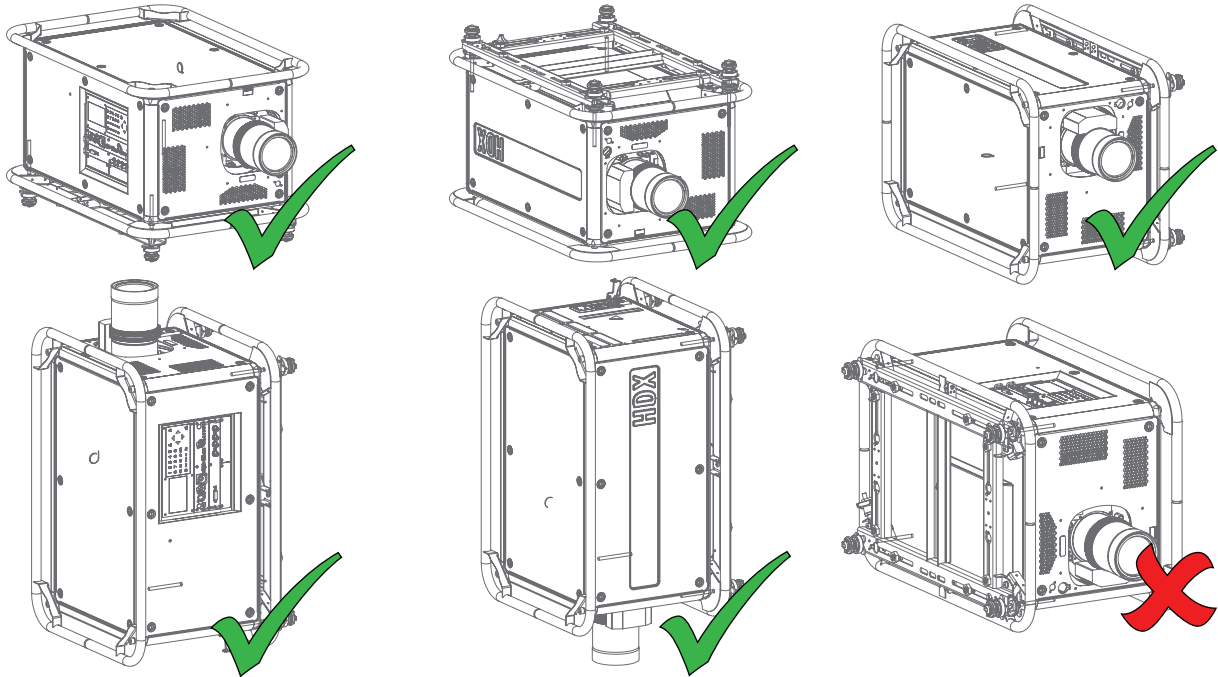


Image 2-9

### Checking the position using the built-in tilt sensor

The projector is equipped with a built-in sensor which can be read out to see if the projector is used in an allowed position.

Perform the following procedure to check if the projector position is allowed:

1. Press **Menu** to activate the menus and select *Service* → *Diagnosis* → *Tilt sensor*.



Image 2-10



Image 2-11



Image 2-12

2. Press **ENTER** to read out the tilt sensor.

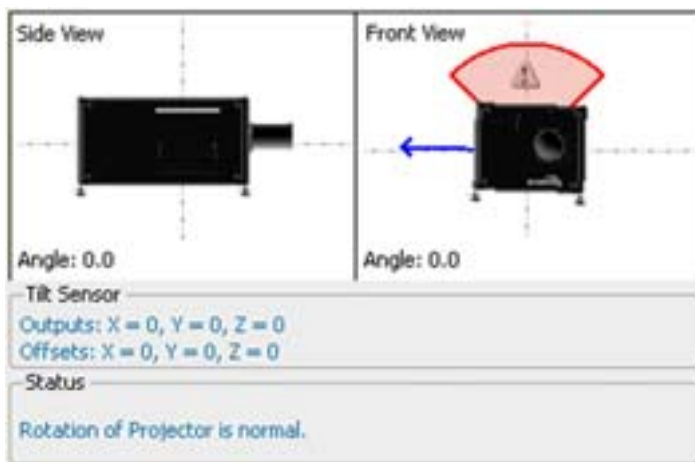


Image 2-13

The rotation of the projector is visually displayed. Coordinates of the tilt sensor and the offset from the normal position are given in the tilt sensor pane.

The status pane indicates if the projector is used with an allowed rotation.

## 2.6 Stacking projectors



The procedure below describes how to stack 2 projectors. The procedure to stack 3 projectors is analog.



**WARNING:** Never stack more than three (3) projectors. Failure to do so can cause serious injury or death.

### Necessary tools

8 mm Allen wrench

### How to stack 2 projectors?

1. Install the Bottom Carry Handle on the projectors you want to stack. See "Installing the Bottom Carry Handle", page 8 .  
**Note:** If the stack is only used for a standing configuration, the bottom projector doesn't have to be equipped with a Bottom Carry Handle.
2. Position 4 stacking points (reference 1, image 2-14) on top of the bottom projector. Install the 4 bolts and tighten.

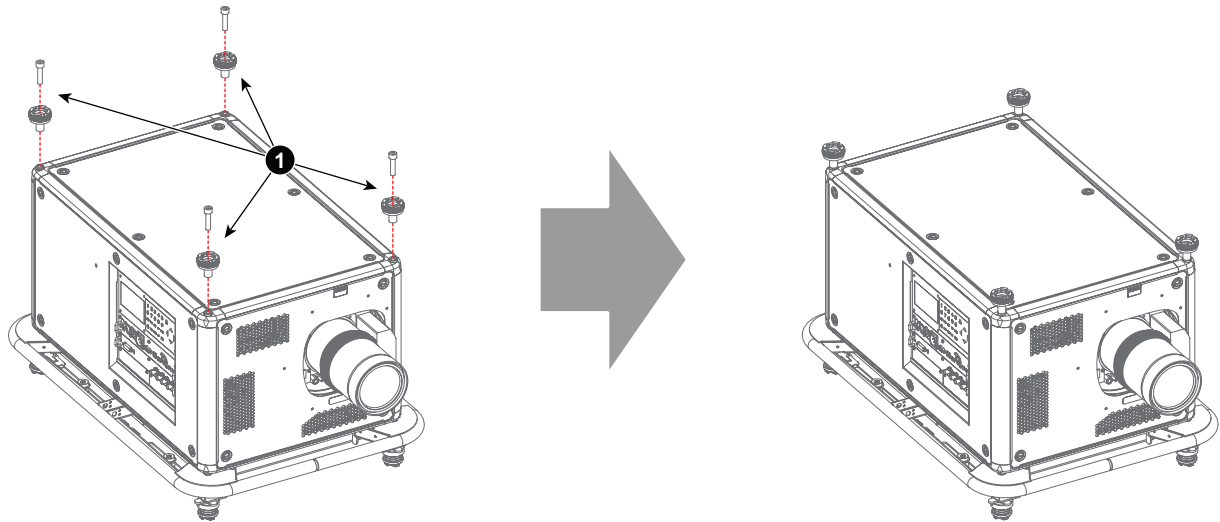


Image 2-14

3. Position the top projector with the Bottom Carry Handle on the stacking points of the bottom projector.

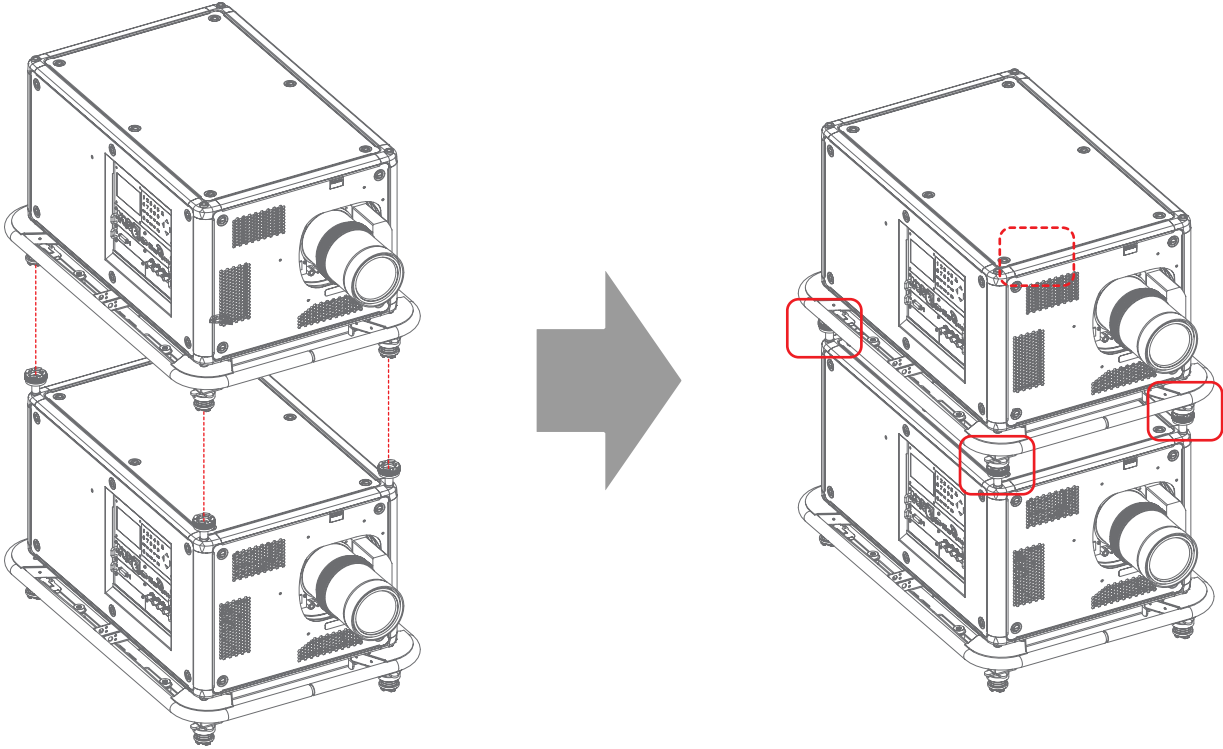


Image 2-15

- 4. Lock the stacking points by rotating the ring a quarter turn clockwise while pushing it downwards until the ring it clicks in (image 2-16).

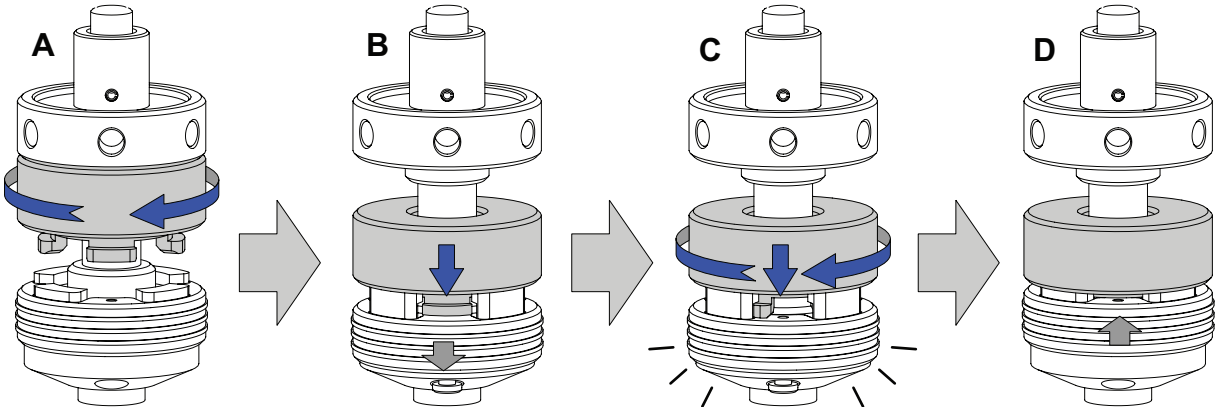


Image 2-16

## 2.7 Suspending the projector from a truss



**WARNING:** Never suspend more than two (2) projectors. Failure to do so can cause serious injury or death.

### Introduction

A projector can be suspended from a truss using rigging clamps. When a Bottom Carry Handle is installed on the projector, 8 slots are available to mount rigging clamps. 4 slots are longitudinally oriented (reference 1, image 2-17) and 4 slots are transversely oriented (reference 2, image 2-17). Each slot contains a rigging point (reference 3, image 2-17) of which the position in the slot can be adjusted depending on the truss the projector is being suspended from. The rigging clamps can be attached to those rigging points, which allows an easy and fast physical setup of the projector in a hanging configuration.

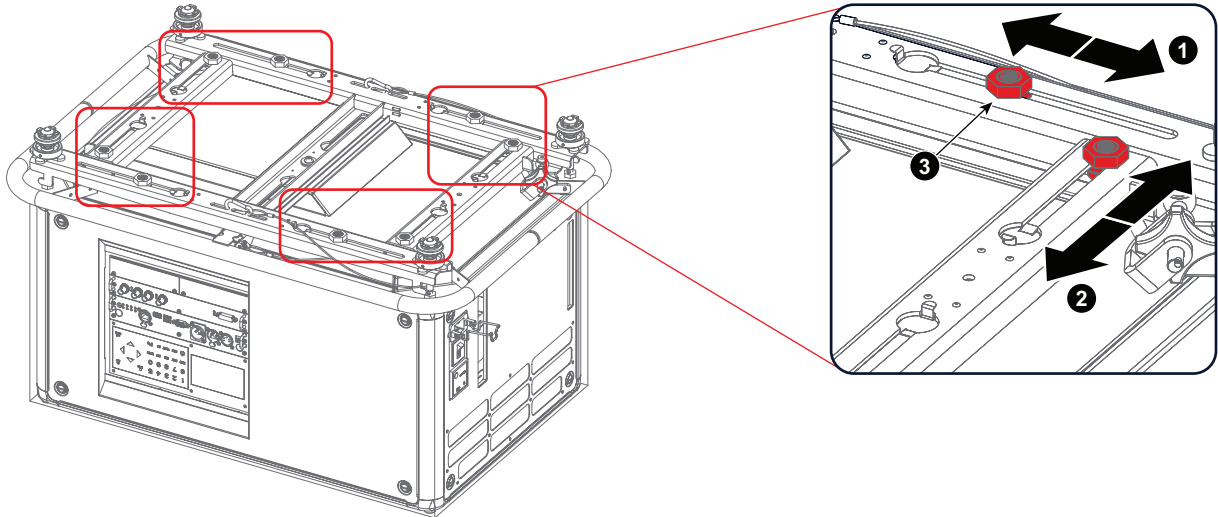


Image 2-17

### Necessary tools

- 17 mm open-end wrench
- 24 mm open-end wrench

### How to suspend 1 projector from a truss?

1. Measure the center distance of the truss support bars as illustrated.

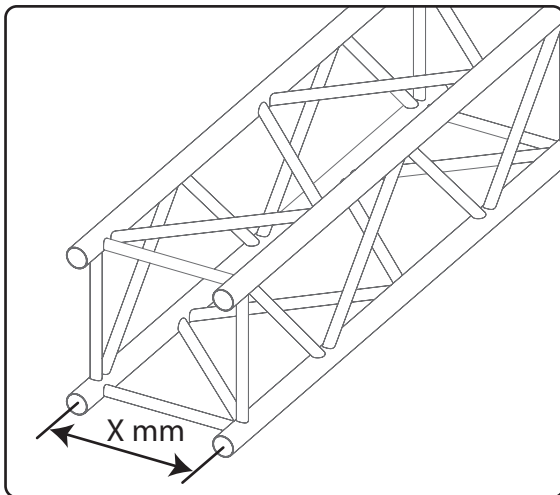


Image 2-18

2. Loosen the nuts of the rigging points (reference 1, image 2-19) and slide them on there place according to the measured center distance.

Tighten the nuts of the rigging points.

**Warning:** Make sure the rigging points are symmetrically around the center of the Bottom Carry Handle to ensure the balance of the hanging projector.

**Warning:** Make sure the rigging points are tightened after adjustment.

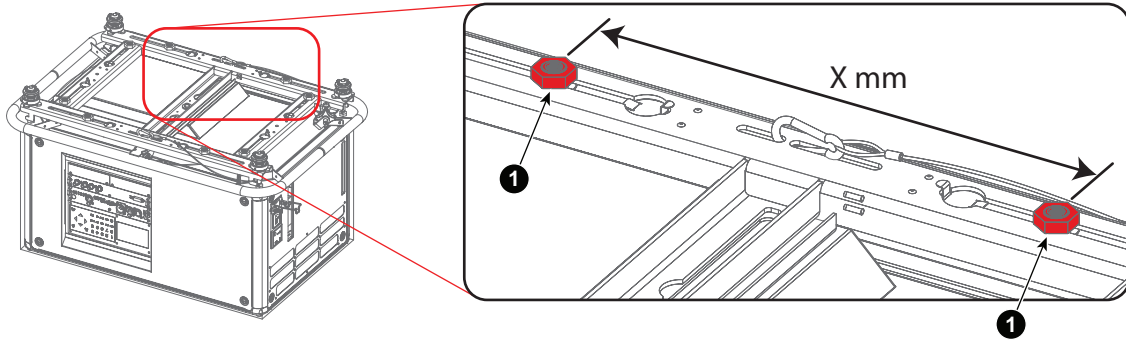


Image 2-19

3. Mount the rigging clamps on the rigging points:

- a) Screw the nut (reference 2, image 2-20) on the spacer (reference 3, image 2-20) to the desired height.
- b) Install the spacer in the rigging point by turning it clockwise until the nut and the rigging point meet.

**Warning:** Make sure that the spacers are screwed in for minimum 2 cm in the rigging points. Failure to do so can cause the projector to fall down.

**Warning:** Always use 4 rigging points when suspending a projector.

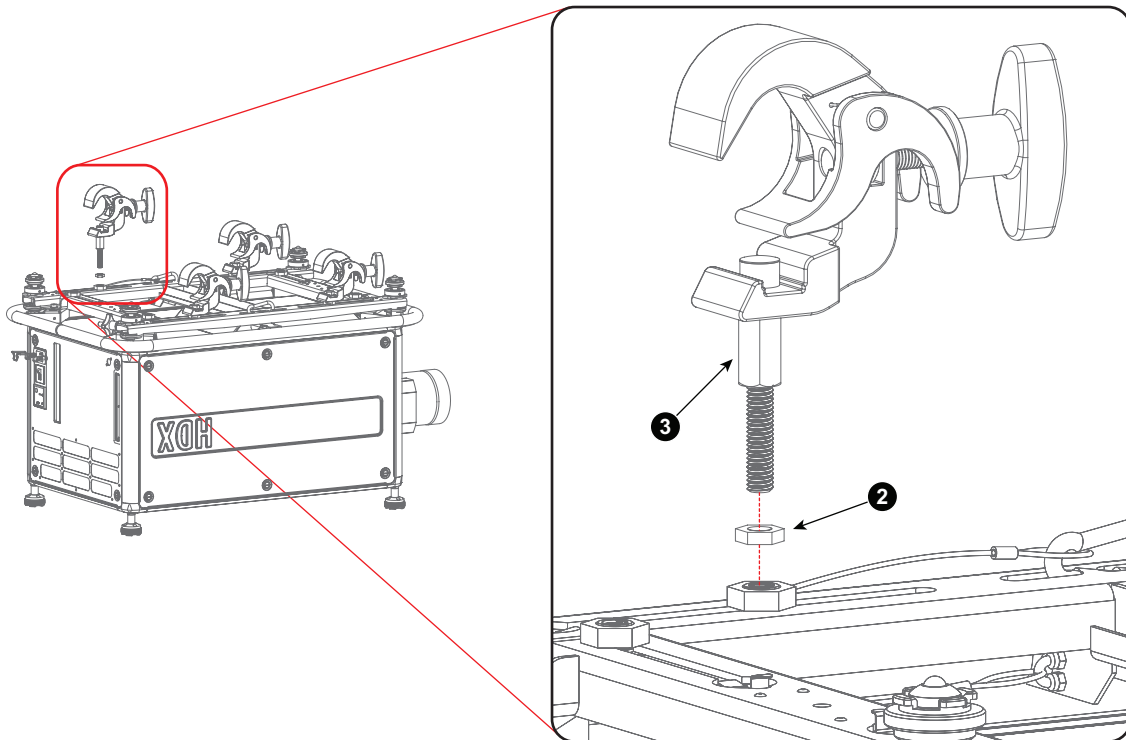


Image 2-20

4. Position the projector under the truss and lower the truss until the truss support bars are nearby the rigging clamps.
5. Lift the projector and hook the 4 rigging clamps over the truss support bars.

## 2. Installation procedures

---

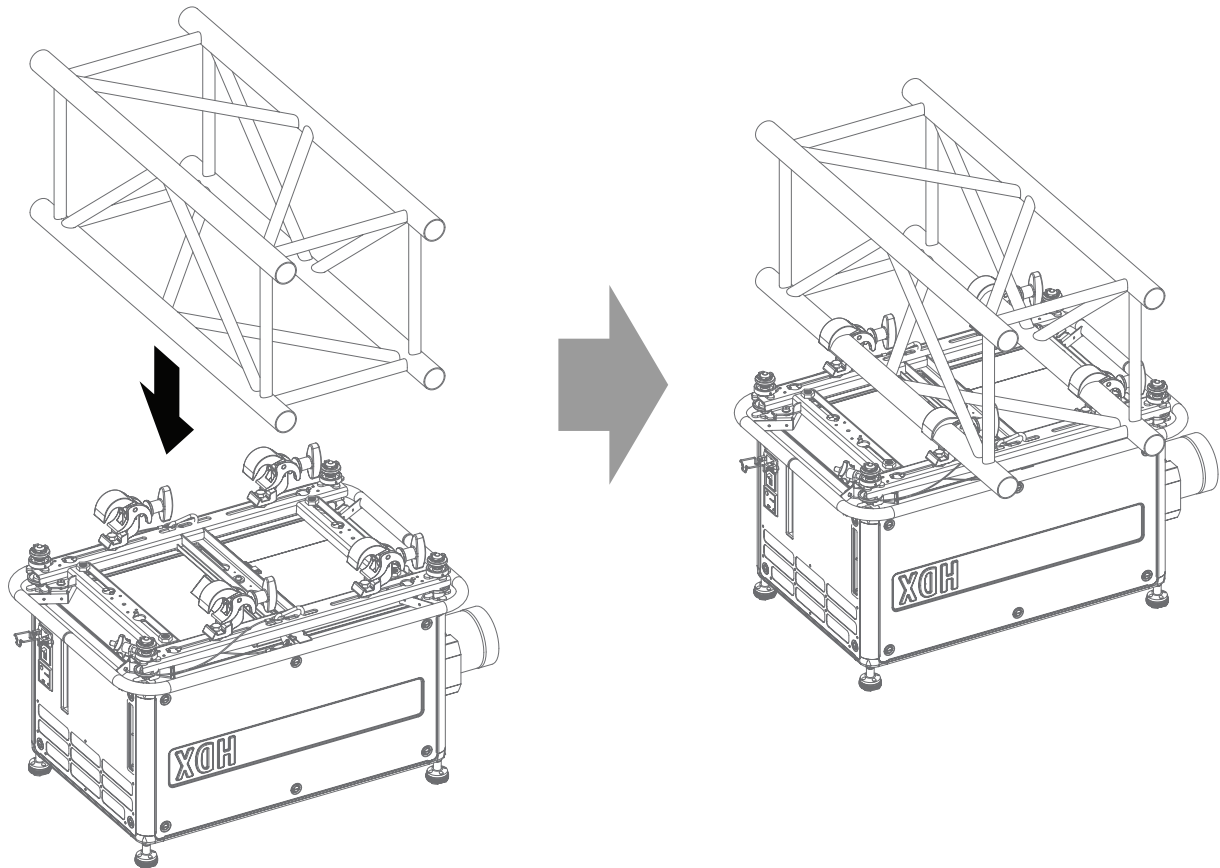


Image 2-21

6. Lock the 4 rigging clamps by turning the fixation knob clockwise.

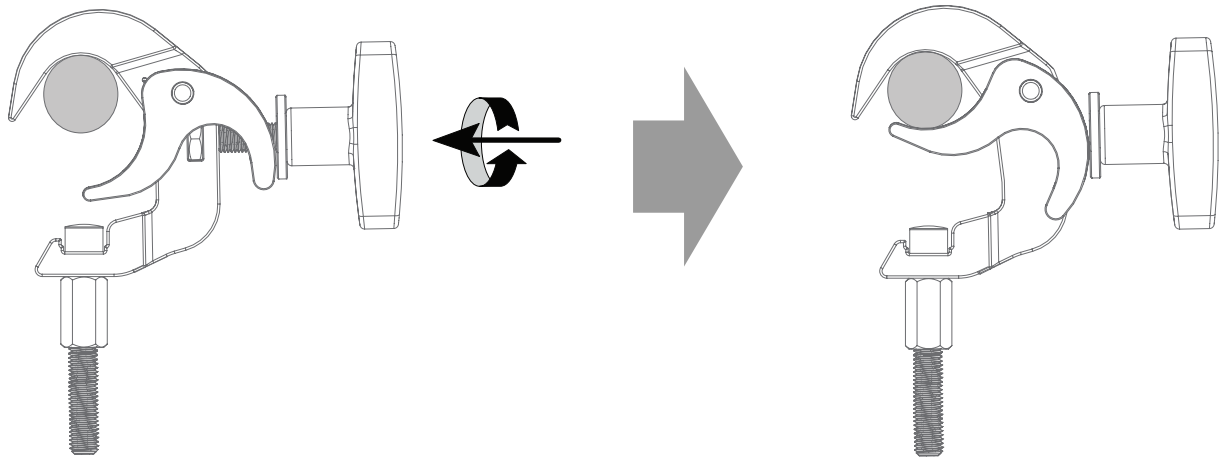


Image 2-22

7. Install the 2 safety cables. Wind them around the carry handle and the truss (push the hook through the loop and then around the truss). Ensure that the play is maximum 20 cm. If necessary, wind the cable a few times around the truss before clasping the safety hook around the cable.



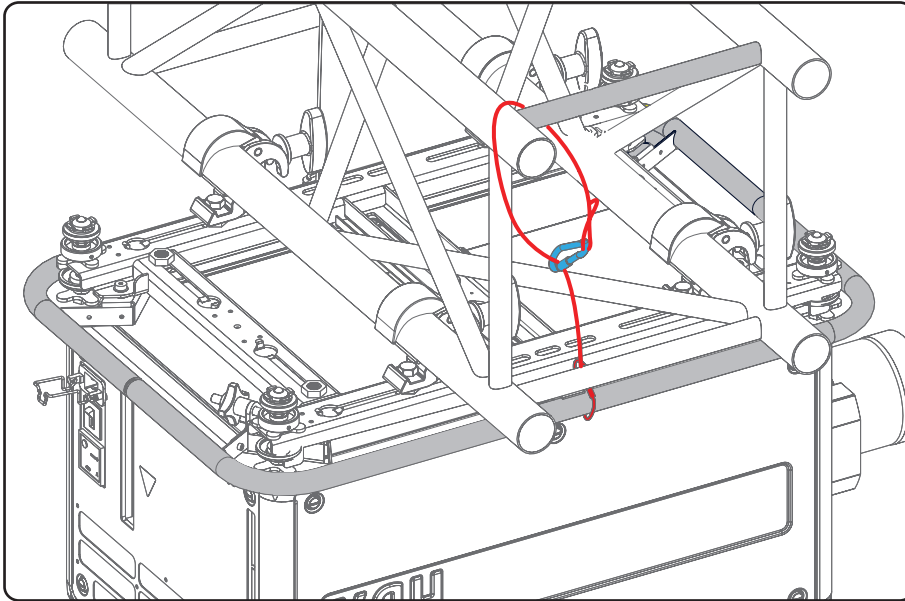


Image 2-23

8. Lift up the truss with projector to the desired height.

**Warning:** Make sure the safety cable is installed with a minimum of play, so that the projector can only fall down for maximum 20 cm. If necessary, wind the cable a few times around the truss before clasping the safety hook around the cable.



**WARNING:** Never suspend more than two (2) projectors. Failure to do so can cause serious injury or death.

### How to suspend 2 projectors from a truss?

1. Stack the 2 projectors as described in "Stacking projectors", page 16.
2. Turn the stack upside down.  
Install 2 safety cables around both Bottom Carry Handles by performing the following procedure:
  - a) Install the safety cables around the Bottom Carry Handle of the bottom projector. Push the safety hooks through the loops.
  - b) Install the other end of the safety cables around the Bottom Carry Handle of the top projector and clasp the safety hooks around the cables as illustrated.

**Warning:** Make sure the safety cables are installed with a minimum of play, so that the projector can only fall down for maximum 20 cm. If necessary, wind the cables a few times around the carry handle tubes before clasping the safety hooks around the cables.

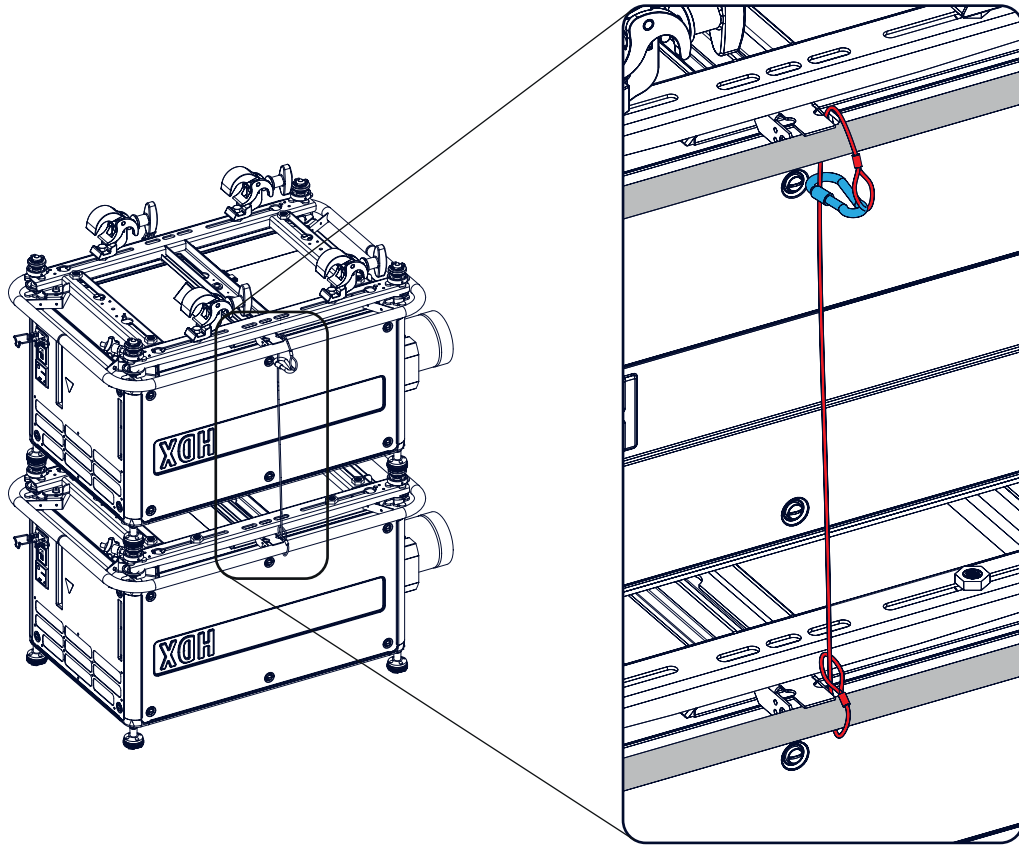


Image 2-24  
Security cables, mount

**Warning:** Always use 2 safety cables to secure a stacked projector in a hanging configuration.

3. Suspend the stack from the truss as described in "Suspending the projector from a truss", page 18.

## 2.8 Skewing the projector

### How to skew the projector?

1. Turn the adjustment knob clockwise or anticlockwise to skew the projector as illustrated.

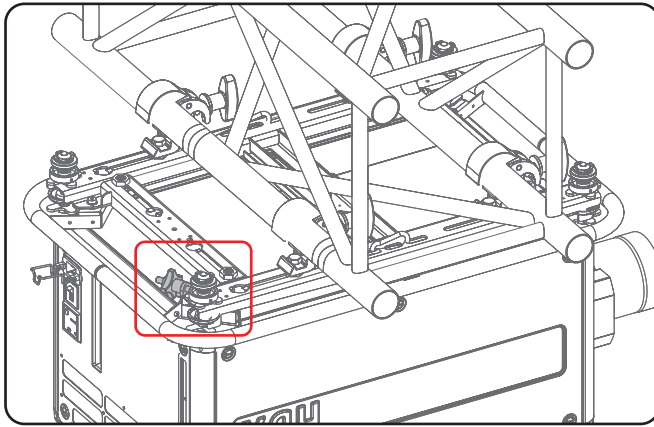
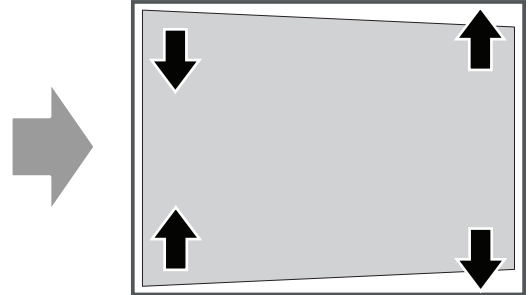


Image 2-25



## 2.9 Inclining and/or rotating the projector

### How to inclinate and/or rotate the projector?

1. Turn the projector feet in or out to inclinate and/or rotate the projector as needed.

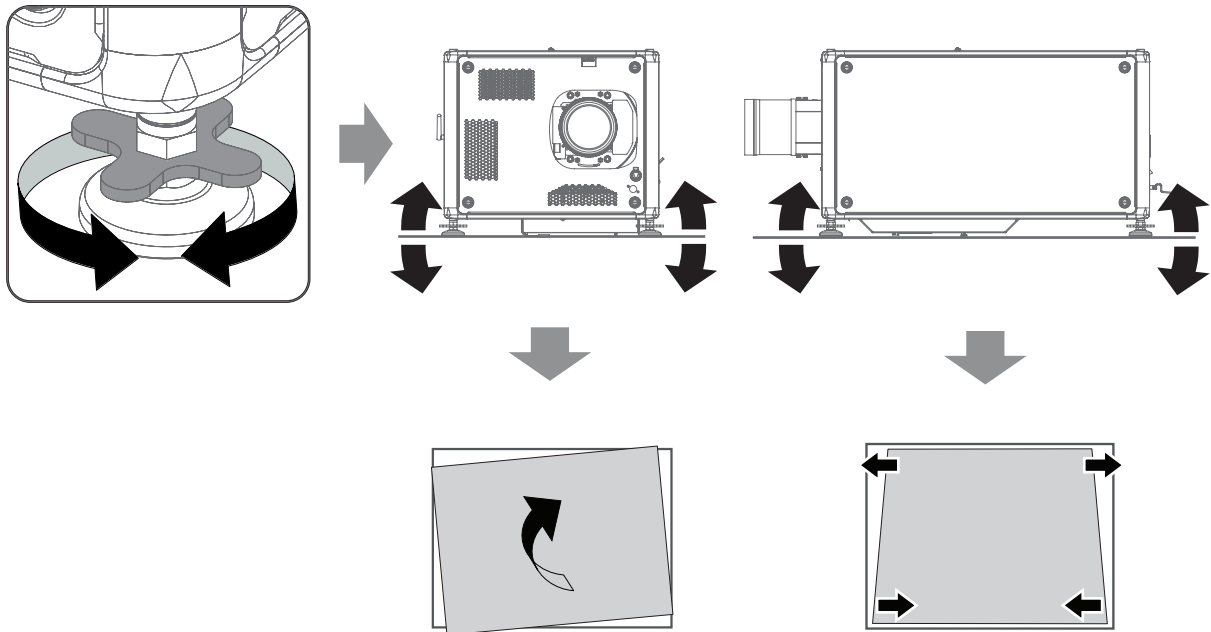


Image 2-26

## 2.10 Aligning stacked projectors

### How to align stacked projectors?

1. Project a hatch pattern with the reference projector.

**Note:** In case of a table mount configuration the reference projector is the lowest projector and in case of a hanging configuration the reference projector is the uppermost projector.

2. Make sure the hatch pattern projected by the reference projector is sharp and has a perfect rectangle outline. If this is not the case, readjust the reference projector before aligning the other stacked projector(s) with the reference hatch pattern.

3. Project the same hatch pattern with the other projector in the stack.

**Tip:** Use a white colored hatch pattern for the reference projector and e.g. green colored for the stacked projector. This makes it easier to see the difference between both hatch patterns projected.

4. If necessary, adjust the rotation of the stacked projector with respect to the reference projector. See "Inclining and/or rotating the projector", page 24.

5. If necessary, adjust the inclination of the stacked projector with respect to the reference projector. See "Inclining and/or rotating the projector", page 24.

6. If necessary, adjust the skew of the stacked projector with respect to the reference projector. See "Skewing the projector", page 23.

7. Shift the hatch pattern horizontally and vertically until the outline of the hatch pattern is most symmetrically placed with respect to the reference hatch pattern.

**Note:** Note that the "Shift" function is motorized, which means that you have to access the projector software, via the local keypad or remote control unit, to operate the "Shift" function.

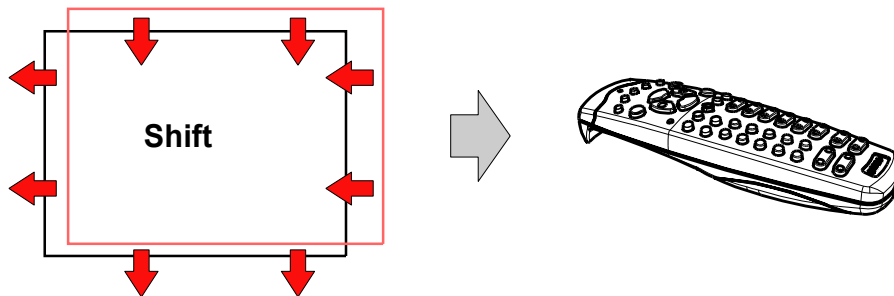


Image 2-27  
Stacked projectors, shift

8. Zoom the hatch pattern in or out until the outline of the hatch pattern matches exactly the outline of the reference hatch pattern.

**Note:** Note that the "Zoom" function is motorized, which means that you have to access the projector software, via the local keypad or remote control unit, to operate the "Zoom" function.

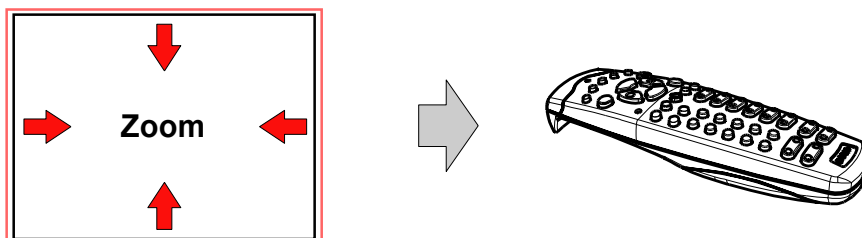


Image 2-28  
Stacked projector, zoom

9. If necessary, repeat this procedure starting from step 3 until the hatch pattern of the stacked projector is perfectly aligned with the hatch pattern of the reference projector.



**In case of a triple stacked table mount configuration, adjust and align first the bottom projector (reference), then the projector in the middle and finally the upper projector.**

## 2.11 Dimensions

### Top Carry Handle

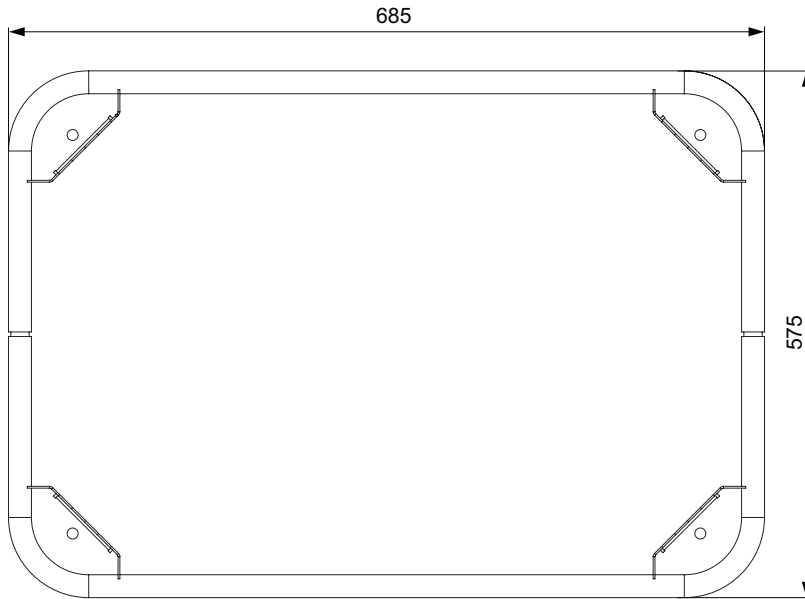


Image 2-29  
Dimensions given in millimeters

### Bottom Carry Handle

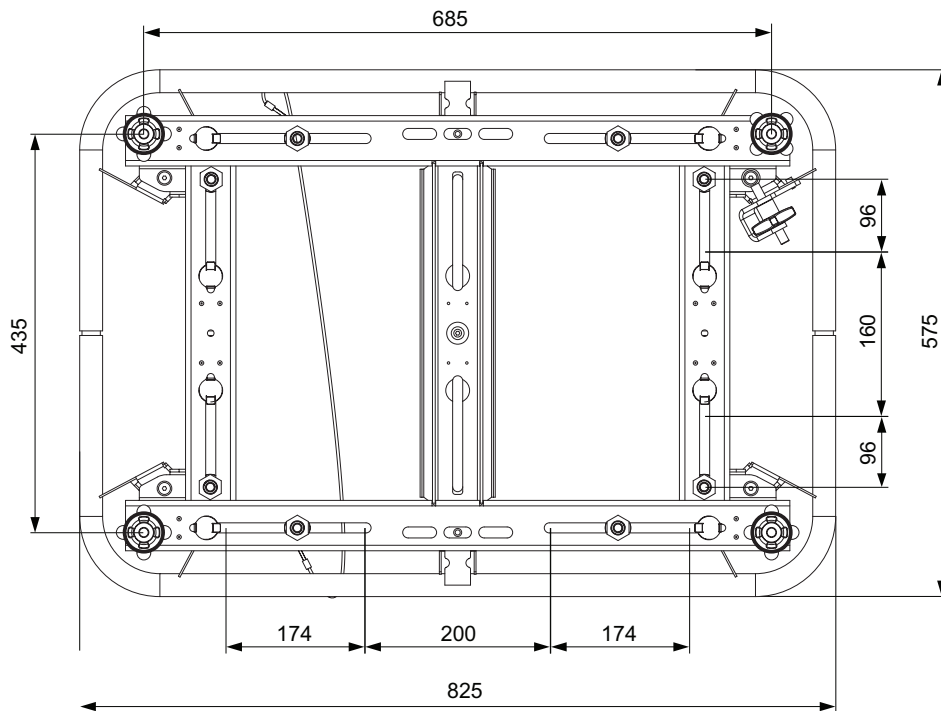


Image 2-30  
Dimensions given in millimeters